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## Creating the instruments for A knowledge revolution in rural India

Rural India is in urgent need of knowledge empowerment and the challenge before us now is to enlist technology as an ally in the movement for economic, social and gender equity. A national grid of virtual universities/colleges devoted to harnessing communication technologies and the vernacular press can play a critical role in triggering such a knowledge revolution. M.S. SWAMINATHAN on one such venture, the soon-to-be inaugurated MSSRF-Tata Virtual Academy for Food Security and Rural Prosperity, designed to serve as a resource centre for all such initiatives.



THE onset of the Industrial Revolution in Europe marked the beginning of a technological divide, leading to an increasing rich-poor divide both among and within nations. With explosive progress in many areas of technology, like information and communication, space, bio- and nano-technology, this gap is widening. The challenge now is to enlist technology as an ally in the movement for economic, social and gender equity. Therefore, the M.S. Swaminathan Research Foundation (MSSRF) chose the imparting of a pro-nature, pro-poor and pro-women orientation to technology development and dissemination as its mandate when it started functioning in Chennai in 1989. In order to assist in the articulation of concepts, opportunities and operational strategies which can help to reach the unreached in knowledge, skill and technological empowerment, an annual inter-disciplinary dialogue is being organised since 1990, under the generic title, "New Technologies: Reaching the Unreached". The first in this series was related to bio-technology. The emphasis in these dialogues has been on the standardisation of delivery systems which can ensure social inclusion in terms of access to relevant technologies. The recommendations resulted in the organisation of bio-villages.

The dialogue in 1992 was on information technology, which gave birth to the information village project in the Union Territory of Pondicherry, with financial support from the International Development Research Centre (IDRC) of Canada. Since information, to be of value to rural

women and men, should be location and time specific, the term knowledge centre was used to stress the need for converting generic into location specific information and for training local women and men in adding value to information. Value-added information is appropriately referred to as knowledge and "rural knowledge centres" can generate opportunities for educated youth in villages to find a career in knowledge management and dissemination. We should train at least a million rural knowledge managers during this decade.

The MSSRF's experience in bridging the digital divide in rural India has provided some basic guidelines such as the following for harnessing this powerful tool to cross social, gender, genetic and technological divides.

- Connectivity and content should receive concurrent attention
- Constraints must be removed on the basis of a malady-remedy analysis; for example, wired and wireless technologies could be used where telephone connections are not adequate or satisfactory. Similarly, solar power can be harnessed where the regular supply of power is irregular. The approach should be based on the principle that there is an implementable solution for every problem.
- The information provided should be demand driven and should be relevant to day-to-day life and the work of rural women and men. Also, semi-literate women should be accorded priority in training to operate the centre, since this is an effective method of enhancing the self-esteem and social prestige of women living in poverty.
- The knowledge centres should operate on the principle of social inclusion, thereby presenting a win-win situation for all.
- The programmes designed to empower rural families with new knowledge and skills should be designed on the **antyodaya** model, where empowerment starts with the poorest and most underprivileged women and men.
- The local population should have a sense of ownership of the knowledge centre. It should be client managed and controlled, so that the information provided is demand and user driven.
- The local population should be willing to make contributions towards the expenses of the knowledge centre, so that the long-term economic sustainability of the programme is ensured. Contributions in cash or kind generate a sense of ownership and pride.
- To be effective, the following linkages will have to be developed

a. **Lab to Lab:** This will involve organising a consortium of scientific institutions and data providers.

b. **Lab to Land:** This will involve symbiotic linkages between the providers of information and the users, so that the information disseminated is relevant to the life and work of rural families.

c. **Land to Lab:** There is considerable traditional knowledge and wisdom among rural and tribal families concerning the sustainable management of natural resources, particularly water. Therefore, technical experts should not only learn from traditional knowledge and experience, but also take steps to conserve for posterity dying wisdom and dying crops.

d. **Land to Land:** There is much scope for lateral learning among rural families; such learning has high credibility because the knowledge coming from a fellow farm woman or man would have been subjected to an impact analysis from the point of view of its economic and social relevance to the population.

Rural knowledge centres based on an integrated application of new communication technologies, like the internet and cable TV as well as conventional ones like community radio and the local language press, can become effective instruments for harnessing the power of partnership among professionals, political leaders and public policy makers, the general public and rural families. Such partnerships alone can help to bridge the growing divide between scientific know-how and field level do-how.



During the last few years, I have been pleading for harnessing modern information and communication technologies through structured organisations like virtual universities/colleges in order to leapfrog in our quest for bridging the digital divide.

As a result, the following virtual universities have either already come into existence or are in advanced stages of development.

1.Virtual University for Agrarian Prosperity in Maharashtra.

2.Virtual University for the Semi-Arid Tropics set up by the International Crops Research Institute for Semi-Arid Tropics, Hyderabad.

3.Virtual University for Agricultural Trade in Kerala.

I hope many more initiatives of this kind will soon come up, so that, along with the Indira Gandhi National Open University, we can organise a national grid of institutional structures which can help to reach the unreached in terms of knowledge and skill empowerment. The MSSRF's experience also shows that bridging the digital divide is a powerful method of bridging the gender divide in rural India. We find that the self-esteem of poor women managing computer-aided knowledge centres has gone up speedily and significantly. This is another reason why we should accelerate our efforts to achieve technological leapfrogging in the field of ICT.

The experience now being gained in the country in the area of fostering a self-help revolution based on micro-enterprises supported by micro-credit offers an excellent opportunity for initiating community owned and managed rural knowledge centres which can be linked together in the form of a virtual academy using a hub and spoke model of organisation. Sustainable self-help groups require reliable and remunerative market linkages. The knowledge centres are in a position to foster such producer-purchaser linkages.

Rural India is in urgent need of knowledge empowerment in areas like genetic literacy (genetically modified organisms and new technologies), quality (*codex alimentarius* standards and sanitary and phytosanitary measures) and legal literacy (implications of the Plant Variety Protection and Farmers' Rights Act, Biodiversity Act, Intellectual Property Rights, etc.,).

A national grid of virtual universities/colleges devoted to harnessing in an integrated manner the internet, cable TV, community radio and the vernacular press for reaching every woman and man in our villages can play a critical role in triggering a knowledge revolution in rural India.

To achieve this goal, however, the virtual universities should be structured as 21st Century organisations designed to link professionals with everyone in rural and tribal areas, whether man or woman, and irrespective of level of literacy and extent of ownership of assets. The MSSRF — Tata Virtual Academy for Food Security and Rural Prosperity is designed to serve as a resource centre for all such initiatives.

India is a land of small holdings. A small farm is ideal for sustainable intensification through eco-agriculture. A small farmer however suffers from many handicaps including access to technology, credit and remunerative markets. It is only by helping such farmers to overcome their handicaps, that small farms can become instruments for an ever-green revolution, characterised by enhancement of productivity in perpetuity, without associated ecological harm.

The smaller the farm, the greater is the need for marketable surplus to derive some cash income. Our farm families can face the challenges of the new global trade regime only by achieving revolutionary progress in the areas of productivity, quality, diversity and value-addition.

They have amply demonstrated through the green revolution that they are ready to help the country, if empowered.

The most important step to take in bringing about such empowerment is the initiation of a knowledge revolution in rural India through the effective and meaningful use of modern information and communication technologies.

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